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A token reinforcement program was used by the Piney Woods Research and Demonstration Center in Chattanooga, Tennessee. Children who were from economically deprived homes received tokens for positive behavior. The tokens were redeemable for recess privileges, ice cream, candy, and other such reinforcers. All tokens were spent on the day earned so that there would be no saving up for a rainy day. The results showed that minor as well as extreme negative behavior was modified. For example, one boy would throw his lunch and shoes into a waste basket upon arriving at school. He would also throw temper tantrums. After the teacher continually rewarded the children around him for their positive behavior, the boy joined class activities more readily and had fewer outbursts of temper. To measure more effectively the results of the program, a pretest and posttest research design has been developed and is being tested with more traditional first grades. (JS)

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Fun While Learning and Earning

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A Look into Chattanooga Public Schools' Token Reinforcement Program

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Chattanooga, Tennessee
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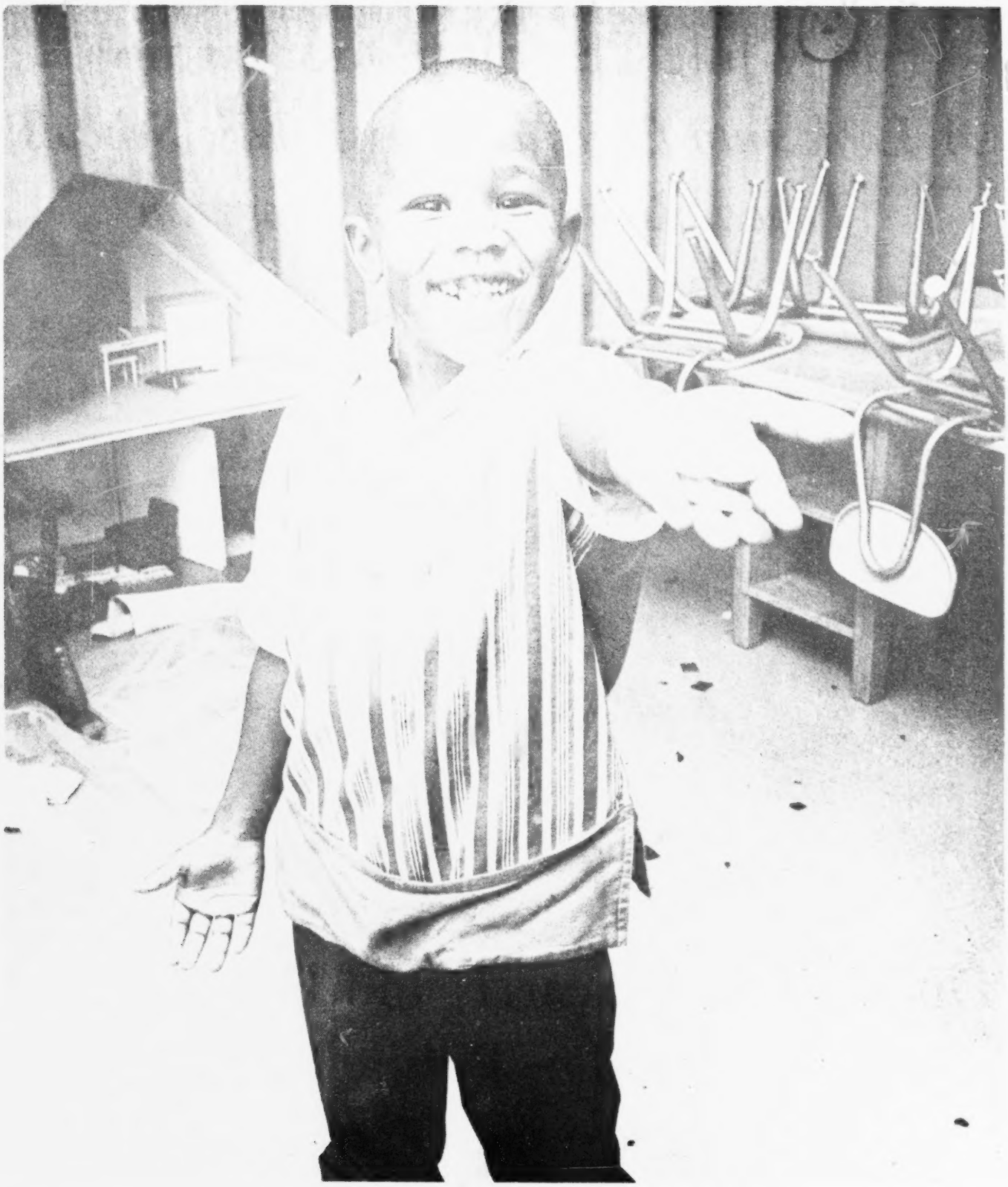


The teacher, dressed like her first graders in a bright striped workman's apron, had spotted a fight in the classroom. Dexter was hitting Tony, and Tony was retaliating, while several other children watched. Mrs. Jones ignored the scufflers. "Angela," she addressed one of the on-lookers, "I like the way you're not hitting anyone." And, "Delores," to another, "I'm so glad you're standing there quietly." With that, she took two small red discs from her apron pockets and tossed one to each child. Then she moved to another group.

Almost immediately, the fight stopped. A visitor came over to ask Angela, "What did she give to you?"

"A red token." She pulled a handful from her apron pocket.

"What did you get those for?"

"Being good."

"What did you do to be good?"

"Read some books."

"I caught some grasshoppers," reported Dexter, who had come up beside Tony to show his tokens. And Tony added, "I got these for my alphabet."

Mrs. Jones (Dorothy) and another Mrs. Jones (Sarah) teach these and other disadvantaged children in a token reinforcement project at Chattanooga, Tennessee's Piney Woods Research and Demonstration Center. Mrs. Nell Armstrong, the principal, explains, "Disadvantaged children are more susceptible to learning if there are immediate rewards."

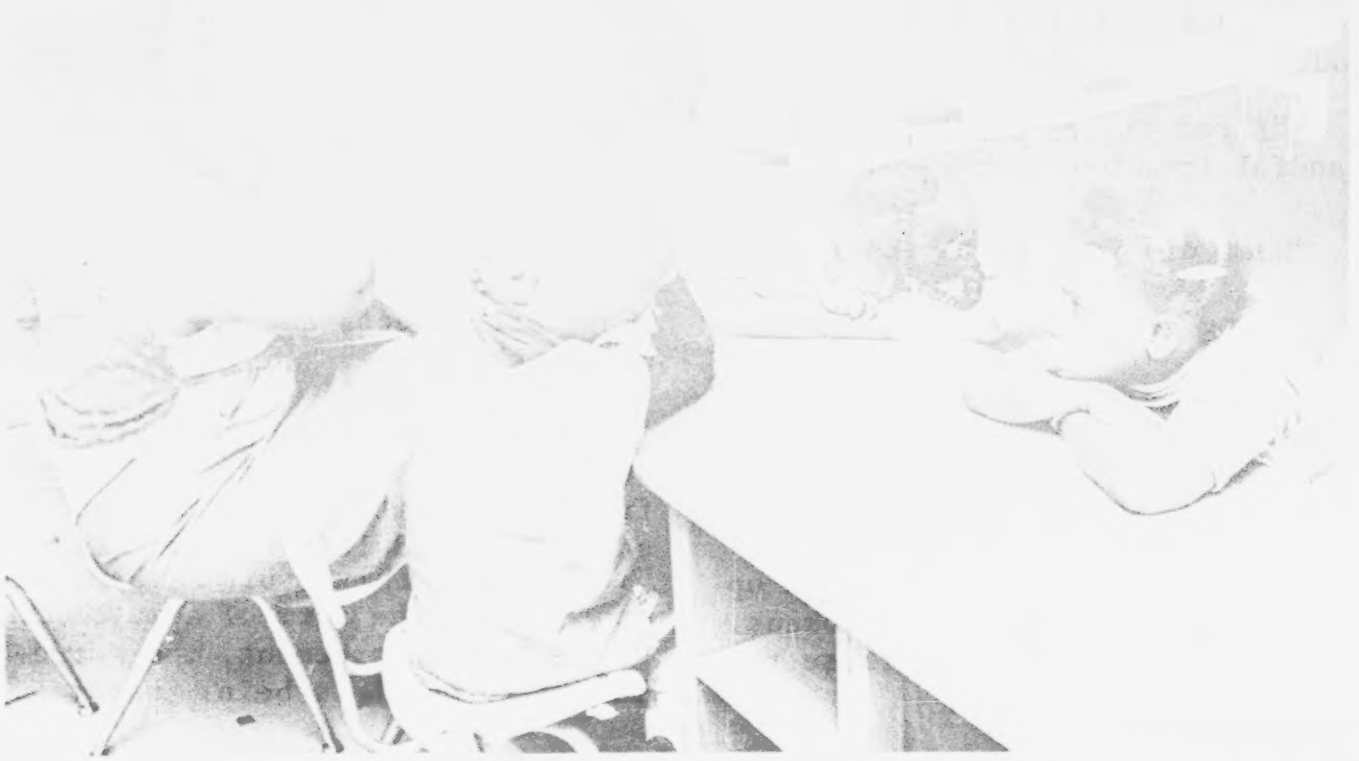
Recently released research reports from across the nation reflect the success of rewarding the students for personal improvements. Many students, like some adults, have difficulty working toward long-range goals. Grades at the end of a six weeks' period may or may not be important to children. By providing a more immediate reward (redeemable tokens) for a job well done, or for the first time even partly done, a student may develop confidence in his ability to achieve in a positive way and, because of the reinforcement, try to do even better. In the meantime, the staff expects and demands more of the child.

Such an approach, encouraging desirable behavior, is not remote from the reality of American society. Most adults receive their "tokens" weekly, bimonthly, or monthly, in the form of a paycheck. Positive reinforcement, the awarding of tokens, is being used to

encourage acceptable behavior in order to facilitate learning processes, rather than to continue the threat of negative "rewards" for unacceptable behavior. With behavior modification as the goal, and tokens representing the reward, learning is the result.

So, the teachers give tokens--tokens for good behavior, and tokens for children like Angela and Delores, who are within hearing and seeing distance of misbehaving students but who do not join in. And, the teachers ignore negative behavior. Positive behavior is rewarded with kind words and with one or more of the tokens, which are redeemable for candy, ice cream, balloons, recess privileges, and certain play privileges in the classroom. The reading table was at first a "free" activity, but the teachers discovered that when tokens were charged for its use, more children read books. Tokens are handed in each day, so they must be spent on the day they are earned.

After training at the Dunbar School in St. Louis and two weeks of inservice training at Piney Woods, the teachers began the project this summer, using as pupils



their own first grade classes from the year before. The first grades were just part of a 205-day extended school year program, which included all grades and all staff members at Piney Woods Research and Demonstration Center. The extended school year program was funded through Title I of the Elementary and Secondary Education Act and involved students who came from an area of widespread economic deprivation. Presently, token reinforcement is used only in the first grades, which receive funds jointly from Title I and the Central Midwestern Regional Educational Laboratory (CEMREL). The total school program is a combination of three basic classroom organizational structures:

(a) traditional self-contained;
(b) team teaching; and
(c) multi-grade ability grouping.

The school is set up with eleven learning centers, each designed to develop a specific skill. In two of these, family living and industrial arts, community residents are participating. This system, devised by Chattanooga School Superintendent Dr. Charles E. Martin and William F. Smith, Coordinator of the Division of Research and Development, enhances the value of the project for demonstration and for teacher training.

Consultant services in the areas of anthropology-sociology, language arts, mathematics, and cultural arts, and a family specialist assigned to the school who organizes parent and community groups for school-community partnerships have been made available. Another adviser, CEMREL consultant, David Buckholdt, serves the first grade exclusively. In order to reach a wider spectrum of the teaching community, 25 teachers from other Title I schools are being trained for two-week terms of revolving duty on the Piney Woods staff.

Do these two teachers think that the token reinforcement experiment is successful? "It has encouraged children to adapt themselves to learning situations," says Mrs. Sarah Jones. According to Mrs. Dorothy Jones, "The children have responded beautifully and haven't had any difficulty at all in understanding the reinforcement system. The parents' response, too, has been enthusiastic. Most of these parents recognize the needs and deficiencies of their children, and they are glad to see them in a program which will help them to overcome these weaknesses."

And most importantly, the children like their classes. They will tell you so. The teachers think token reinforcement is probably most successful with students having difficulties adjusting to the classroom setting. One child, at the first of the year, kept his head covered in class and persist-

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ently hid under the tables, in the closet, or behind the bulletin board. He refused to wear shoes in the class and, as soon as he arrived in the morning, would take them off and toss them in the wastebasket. His sack lunch always ended up in the same place. There were temper tantrums, and times when he threw equipment across the room. Then his teacher began to ignore all unacceptable behavior. He would hide in the closet after each tantrum; and, when no one paid any attention, he rejoined the class. His stays in the closet became shorter, and the number of tantrums declined. Within his hearing, members of the group were rewarded tokens for exhibiting positive social behavior. He, therefore, subsequently altered his behavior so that he, too, might get in on the action. And it was not long before the child stopped behaving so radically and participated normally in the class activities.

Mrs. Dorothy Jones tells of another case in which a child in her room refused to communicate with her or the children. During the summer session the child was given tokens for very small achievements. She has advanced to grade level in her communication skills and reading, and finds no difficulty in talking with her peers. Mrs. Jones insists that the token reinforcement system is effective in less extreme behavior patterns. Tokens gain the child's attention and motivate him to exhibit acceptable behavior. Rewards given a child for proper classroom behavior provide incentive to his classmates to develop self-control in order to be similarly rewarded.

From the beginning of the school year, children received awards for positive behavior. In turn, they had to pay for privileges. (For example, recess may cost five tokens, if no tokens have been earned, no recess.) At the end of the day the child spends all the tokens he has acquired throughout the day. There is no "saving up for a rainy day." Ice cream may cost ten tokens; a balloon, one token; candy, five tokens. A simple equation is established: no token = no treat.

After several weeks of the program, teachers observe that a child ending the day without tokens does not cry; he accepts the fact that he will not receive any treat, and invariably tries harder the following day. According to the staff, the concept of token reinforcement teaches responsibility and good sportsmanship. Occasionally, a child forfeits recess for the end-of-the-day treat. The decision is his to make. Tangible rewards are slowly diminishing, and it is projected that before the conclusion of the school year, material rewards for a child will be rare. Finally, the teachers insist that token reinforcement has done won-

ders for the mathematics program. "Our first graders know exactly how many tokens they have; and if they spend five, they know exactly how many are left.

Staff enthusiasm is reflected in the numerous specific examples of success with the token reinforcement system. In order to more objectively measure program success in relation to student achievement, social adjustment, and mental and physical development, a pre- and post-test research design has been developed. Two other first grade classes, located in neighboring schools which serve similar communities, have been identified as the control group. One of these control classes may be described as traditional, while the other is an extension of the Head Start Follow-Through program which is made possible through Title I of the Elementary and Secondary Education Act. As Chattanooga focuses its Title I program on early childhood and elementary school education, the Piney Woods Research and Demonstration Center is reflective of the focus.

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